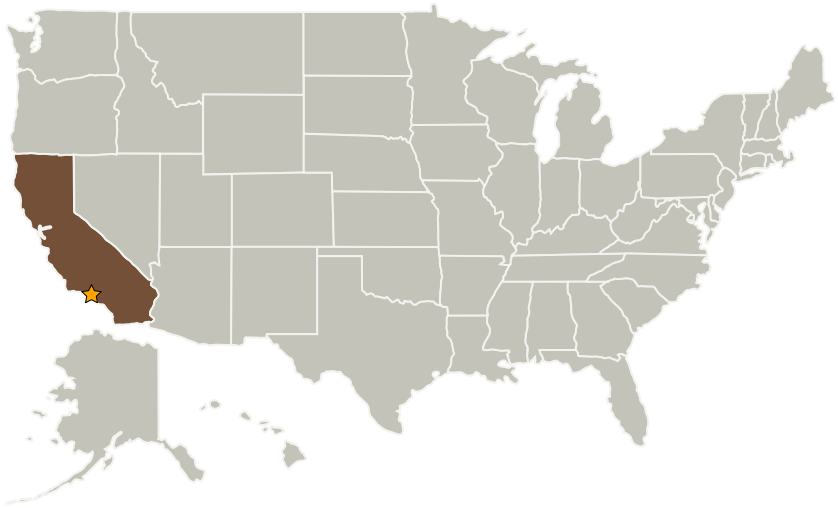
Small, Light-Weight Pump Technology for On-Board Pressurization of Propellants in a Mars Ascent Vehicle, Phase II

Completed Technology Project (2009 - 2011)

Project Introduction

To-date, the realization of high-performance liquid bipropellant rocket engines in the micro-scale has largely been hindered by the inability to obtain "on-board" pressurization through a light-weight and low-complexity pump. Ventions seeks to fulfill this critical need by proposing the development of a low-risk pump that can be batch fabricated in a low-cost manner to provide significant performance improvements for a Mars Ascent Vehicle and other spacecraft.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
Ventions, LLC	Supporting Organization	Industry	San Francisco, California

Primary U.S. Work Locations
California

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Project Transitions

December 2009: Project Start

December 2011: Closed out

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.1 Chemical Space Propulsion
    - TX01.1.3 Cryogenic